# Reflection Log #3

## Section 1 – COMPACT HEADER

**Date:** July 18, 2025  
**Student Name:** Vishnu Narayanan K R  
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**Company Name:** YULCOM Technologies Inc.  
**Faculty Supervisor Name:** Michel Paquette  
**Time Period Covered:** July 1 – July 18, 2025

## Section 2 – TECHNICAL INFORMATION

Following the progress made in the previous reporting period: where I focused on enhancing the appointment system, improving calendar functionality, and implementing biometric and visit-related features, this final phase of the internship marked a shift from active feature development to **testing, debugging, and finalizing** the application for client readiness. Building on the solid foundation established earlier, I took on more responsibility in ensuring application stability, introducing a testing strategy, and addressing infrastructure-level challenges that arose as we moved closer to deployment.

During the first week of this period, my primary goal was to evaluate and implement a testing strategy for our healthcare management app. I started by researching different types of testing and ultimately recommended a combination of **manual testing** and **end-to-end (E2E) testing** using frameworks like **Playwright** or **Cypress**. I documented the mock user flows needed to guide both manual testers and automated testing scripts. This initiative stemmed from our upcoming client demos, where we needed a more polished and reliable application state. This testing design was shared and discussed with Mr. Komi during our progress meeting on July 4.

Simultaneously, I worked on a persistent UI bug related to **incorrect appointment and visit counts** on the homepage. After multiple rounds of debugging and API review, I fixed the issue. Shortly after, I began exploring a new feature request: **Profile Management**. After gathering initial requirements from Qiutian, I designed and developed the corresponding API endpoints, including features to **update demographic details** and **change passwords**. These endpoints incorporated security measures such as authentication checks and password protection.

One major challenge during this phase was an unexpected **Bitbucket push failure** due to **repository size limits**. This interrupted the update flow, but I quickly flagged the issue to Mr. Komi and adjusted my push schedule accordingly. On the technical front, I also faced a **Docker configuration error** while integrating the newly built profile management UI. To resolve this, I uninstalled and re-installed Docker, and additionally created **automated scripts** to manage image cache and clean builds, which will help future developers avoid similar blockers.

In the final week, I successfully merged the profile management feature into the main branch after testing. I informed Qiutian so she could handle the manual migration from Bitbucket to Github due to repo limitations. My final day involved a comprehensive self-evaluation of all completed tasks, short discussions with colleagues, and a longer one with Eric about career planning specifically in the domain of AI.

**What worked well:**

* Designing testable user flows helped structure both manual and automated QA practices.
* Efficient debugging of APIs and integration with React components.
* Mitigating Docker and Bitbucket issues with proactive scripting and team communication.

**Challenges:**

* Handling infrastructure problems (e.g., Bitbucket push limits, Docker crashes) that disrupted development flow.
* Implementing secure profile update mechanisms and UI integration without regression on other modules.

**Knowledge applied:**

* API design using Django REST Framework
* Authentication and secure password handling
* Docker CLI and scripting for container management
* QA strategy development and tools like Cypress/Playwright

**Knowledge gaps:**

* Advanced test automation practices (mocking, CI/CD integration)
* Container orchestration at scale (e.g., using Docker Compose effectively with shared environments)
* Real-world project deployment strategies

**Learning:**  
 Through this last stretch, I’ve matured significantly as a developer, not just in terms of writing functional code, but in **understanding what makes software production-ready**, **collaborating cross-functionally**, and **anticipating user expectations**. The blend of QA, debugging, scripting, and feature delivery has given me a holistic view of full-cycle software development.

## Section 3 – PERSONAL INFORMATION

As I reflect on the overall experience, I feel a deep sense of growth and fulfillment. The final two weeks were demanding but rewarding, especially with responsibilities branching into testing, bug-fixing, and DevOps-style problem-solving. I appreciated the trust and autonomy given by my team, particularly from Mr. Komi and Qiutian, who supported me with clear feedback and flexibility.

The conversations I had toward the end especially with Eric about AI career paths were insightful and motivating. It gave me a broader perspective on how I might align my next steps beyond just web development.

Despite some technical roadblocks, I always felt empowered to figure things out, and more importantly, to communicate challenges transparently with my team. My confidence as a contributor has grown, and I now feel better prepared for both technical roles and collaborative professional environments.